UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/283,561	04/01/1999	JAMES R. H. CHALLENGER	YO999-011(87	1201

46069 7590 01/27/2005		

F. CHAU & ASSOCIATES, LLC
130 WOODBURY ROAD
WOODBURY, NY 11797

EXAMINER
HUTTON JR, WILLIAM D

ART UNIT	PAPER NUMBER
2179	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/283,561	CHALLENGER ET AL.
	Examiner	**Art Unit**	
	Doug Hutton	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P riod for R ply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *16-26,42-53,55-60 and 75-81* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-26,42-53,55-60 and 75-81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 April 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Applicant's Response

In Applicant's Response dated 23 August 2004, Applicant amended Claims 20, 22, 23, 46, 48, 49, 53, 57 and 60, added new Claims 75-81, cancelled Claims 1-15, 27-41, 54 and 61-74, and argued against all objections and rejections previously set forth in the Office Action dated 23 April 2004.

The previous objections to Claims 20, 22, 23, 46, 48, 49 and 62 are withdrawn. The previous 112 rejections for Claims 23 and 49 are withdrawn.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "when a node n1 is examined, for a node n2 which has changed and for which an edge from node n2 to node n1 exists, constructing a union between a set including node n2 and a set including changed fragments used to construct node n2" (see Claim 23, Lines 6-8 and Claim 49, Lines 7-9).

Claim Objections

Claims 1, 27 and 61 are objected to because of the following informalities:

- the term "objects" in Claim 1, Line 1 should be amended to — web pages — because Applicant's invention is used to publish web pages *that include objects,*

as specified on Page 9, Lines 20-21 in the Specification; the term "objects" is used **extensively** throughout the claims to describe different elements of the present invention, and this causes confusion; for clarity in the claims, the term "objects" should be used only when it describes the *individual components* that comprise a web page; all other "objects" in the claims should be called another name; Claim 27 (Line 3) and Claim 61 (Line 1) have the same problem.

Claims 16, 42, 53 are objected to because of the following informalities:

- the term "objects" in Claim 16, Line 1 should be amended to — web pages — because Applicant's invention is used to publish web pages *that include objects,* as specified on Page 9, Lines 20-21 in the Specification; the term "objects" is used **extensively** throughout the claims to describe different elements of the present invention, and this causes confusion; for clarity in the claims, the term "objects" should be used only when it describes the *individual components* that comprise a web page; all other "objects" in the claims should be called another name; Claims 42 (Line 3) and 53 (Line 1) have the same problem.

Claim 53 is objected to because of the following informalities:

- the claim recites "objects" in Line 3, Line 4 and Line 8. The "objects" in Lines 3 and 4·are the same "objects." However, it is unclear whether the "objects" in Line 8 are from the "objects" of Lines 3 and 4 or are completely different "objects."

Applicant should amend the claim to differentiate between these objects, if they

are in fact different objects.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16, 17, 42 and 43 remain rejected under 35 U.S.C. 102(e) as being

anticipated by Darnell, et al., **Using Macromedia Dreamweaver 1.2** (Que Publishing –

June, 1998).

Claim 16:

Darnell discloses a method for publishing a plurality of objects (see Chapter 8 –

"Reusable Parts for Web Pages" – Darnell discloses this limitation in that Dreamweaver

is a web authoring tool that allows a user to publish web pages, as clearly indicated in

the cited text), comprising the steps of:

- providing a plurality of objects (see Pages 117-123 – Darnell discloses this

  limitation in that Dreamweaver allows a user to create and manage a website

  having a plurality of web pages; each individual web page of the website is an

"object"), including compound objects (see Pages 117-123 – Darnell discloses

this limitation in that Dreamweaver includes web pages that are "compound

objects" because multiple "parts" comprise the web pages, as clearly indicated in

the cited text);

- partitioning at least some of the plurality of objects into a plurality of groups such

that if two compound objects are constructed from at least one common changed

fragment, then the compound objects are placed in a same group (see Pages

117-123 – Dreamweaver includes "web page parts" in a "library," as clearly

indicated in the cited text. These "library items" are used in construction of web

pages for a website and may be edited, as clearly indicated in the cited text.

These edited "library items" are the "changed fragments." Dreamweaver allows

the user to edit multiple "library items" and update all web pages at once, as

clearly indicated in the cited text. In this "atomic" update of the web pages,

Dreamweaver searches through all of the web pages for the website and updates

all of those pages containing the edited "library items," as clearly indicated in the

cited text. In order to do this, Dreamweaver must *inherently* "place compound

objects having a common changed fragment into a same group" in that, for each

edited "library item," Dreamweaver will determine which web pages of the

website contain said edited "library item." In doing this, Dreamweaver has

"[partitioned] at least some of the plurality of objects into a plurality of groups

such that if two compound objects are constructed from at least one common

changed fragment, then the compound objects are placed in a same group.");

and

- publishing all objects belonging to a same group together (see Pages 117-123 –

   Darnell discloses this limitation in that Dreamweaver allows users to

   collaboratively work on the content of web pages for a website and allows said

   users to publish their website, as clearly indicated in the cited text. In doing this,

   Dreamweaver sets up a "working site" and a "final site." After all final edits to the

   "library items" and each individual web page have been made, the website is

   sent to the web server. Thus, Darnell discloses "publishing all objects belonging

   to a same group together.").

Claim 17:

Darnell discloses the method of Claim 16, wherein the step of publishing includes

the step of:

- for at least two of the plurality of groups, publishing all objects belonging to a first

   group before publishing any objects belonging to a second group (see Pages

   117-123 – Darnell discloses this limitation in that, as indicated in the above

   rejection for Claim 16, Dreamweaver divides the website into groups that include

   web pages having the same edited "library item," makes the required changes to

   said web pages, and then publishes said web pages. Because Dreamweaver

   can handle each edited "library item" separately, web pages that contain a first

   edited "library item" may be "published" before web pages containing a second

edited "library item." Thus, Darnell discloses "publishing all objects belonging to

a first group before publishing any objects belonging to a second group.").

Claims 42 and 43:

Claims 42 and 43 are merely computer software that performs the methods of

Claims 16 and 17, respectively. Accordingly, Claims 42 and 43 are rejected using the

same rationale indicated in the above rejections for Claims 16 and 17.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18, 19, 44 and 45 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Darnell, et al., **Using Macromedia Dreamweaver 1.2** (Que

Publishing – June, 1998).

Claims 18, 19, 44 and 45:

As indicated in the above discussion, Darnell discloses every element of Claim

16. Darnell also discloses "delaying publication of a first object until a second object is

published" (see Pages 117-123 – Darnell discloses this limitation in that, as indicated in

the above rejection for Claim 16, Dreamweaver divides the website into groups that

include web pages having the same edited "library item," makes the required changes

to said web pages, and then publishes said web pages. Because Dreamweaver can

handle each edited "library item" separately, publication of web pages that contain a first

edited "library item" may be "delayed" until web pages containing a second edited

"library item" are published. Thus, Darnell discloses "delaying publication of a first

object until a second object is published."). Finally, Darnell discloses first and second

objects that are web pages.

Darnell fails to expressly disclose delaying publication of a first object until a

second object *which is referenced by the first object, via a hyperlink,* is published.

However, it was well-known by one of ordinary skill in the art at the time the invention

was made to publish web pages in a certain order so that the first web page would not

include a hyperlink to the second web page before the content on the second web page

was updated. Webmasters did this so that all web pages for a website correspond and

include the latest version of all components that comprise the web pages.

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method, disclosed in Darnell, to include

the step of delaying publication of a first object until a second object which is referenced

by the first object, via a hyperlink, is published so that the first web page would not

include a hyperlink to the second web page before its content was updated.

Claims 20-22 and 46-48 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over Darnell, et al., **Using Macromedia Dreamweaver 1.2** (Que

Publishing – June, 1998), in view of Ferrel et al., U.S. Patent No. 6,199,082.

Claim 20:

As indicated in the above discussion, Darnell discloses every element of Claim

16.

Darnell fails to expressly disclose:

* representing at least some of the plurality of objects by nodes on at least one

  graph; and

* representing one or more relationships between the objects by connections

  between the nodes.

Ferrel teaches a method for publishing a plurality of objects (see Column 1, Lines

8-11), comprising the steps of:

* representing at least some of the plurality of objects by nodes on at least one

  graph (see Column 9, Lines 30-31 – Ferrel discloses this limitation in that the

  reference states that an acyclic graph is a way of "storing related and ordered

  objects in a data structure." An acyclic graph *inherently* includes "nodes on a

  graph" in that this wording simply describes an "acyclic graph."); and

* representing relationships between the objects by edges between the nodes (see

  Column 9, Lines 30-31 – Ferrel discloses this limitation in that the reference

  states that an acyclic graph is a way of "storing related and ordered objects in a

  data structure." An acyclic graph *inherently* includes "edges between the

nodes" that "represent relationships between the objects" in that this wording

simply describes an "acyclic graph."),

for the purposes of organizing the relationships between the objects and graphically

displaying those relationships.

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method, disclosed in Darnell, to include

the steps of representing objects by nodes on at least one graph and representing

relationships between the objects by edges between the nodes for the purposes of

organizing the relationships between the objects and graphically displaying those

relationships, as taught in Ferrel.

Claim 21:

Darnell, in view of Ferrel, fails to expressly disclose a graph that includes an

edge between two nodes representing compound objects if the two compound objects

are constructed from at least one common changed fragment. However, this limitation

is merely reciting an ***inherent*** characteristic of an acyclic directed graph.

As indicated in the above rejection for Claim 20, Ferrel teaches an acyclic graph

that represents relationships between objects by edges between nodes. Any directed

acyclic graph that includes two nodes representing two compound objects constructed

from a common fragment will ***inherently*** have an edge between the two nodes.

Claim 22:

Darnell, in view of Ferrel, fails to expressly disclose edges that include a directed edge from a first node representing a first object to a second node representing a second object, if the second object includes a reference to the first object. However, this limitation is merely reciting an *inherent* characteristic of an acyclic directed graph.

As indicated in the above rejection for Claim 20, Ferrel teaches an acyclic graph that represents relationships between objects by edges between nodes. Any directed acyclic graph that includes a second object comprising a reference to a first object will *inherently* have a directed edge from a first node representing the first object to a second node representing the second object because acyclic graphs display the relationships between nodes using directed edges.

Claims 46-48:

Claims 46-48 are merely computer software that performs the methods of Claims 20-22, respectively. Accordingly, Claims 46-48 are rejected using the same rationale indicated in the above rejections for Claims 20-22.

Claims 23-26, 49-53 and 55-60 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Darnell, et al., **Using Macromedia Dreamweaver 1.2** (Que Publishing – June, 1998), in view of Ferrel et al., U.S. Patent No. 6,199,082, and further in view of Cormen et al., "Introduction to Algorithms" ©1990, pp. 477-493.

Claim 23:

As indicated in the above discussion, Darnell, in view of Ferrel, discloses/teaches every element of Claim 20.

Darnell, in view of Ferrel, fails to disclose determining if a first compound object and a second compound object embed at least one common changed fragment by:

- topologically sorting at least part of the at least one graph;

- examining the at least one graph in an order defined by the topological sort; and

- when a node n1 is examined, for a node n2 which has changed and for which an edge from node n2 to n1 exists, constructing a union between a set including node n2 and a set including changed fragments use to construct node n2.

Cormen teaches determining if a first compound object and a second compound object embed at least one common changed fragment by:

- topologically sorting at least part of the at least one graph (see Page 485, fifth and sixth full paragraphs);

- examining the at least one graph in an order defined by the topological sort (see Page 485, fifth and sixth full paragraphs); and

- when a node n1 is examined, for a node n2 which has changed and for which an edge from node n2 to n1 exists, constructing a union between a set including node n2 and a set including changed fragments use to construct node n2,

for the purpose of indicating precedence among the objects (see Page 485, fifth and sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Darnell, in view of Ferrel, to include the steps of:

- topologically sorting at least part of a graph including dependence edges between objects;

- examining the graph in an order defined by the topological sort; and

- constructing a union between a set including a second object and a set including changed fragments needed to construct the second object for at least one edge which begins with the second object and terminates in the first object and for which the second object has changed,

for the purpose of indicating precedence among the objects, as taught in Cormen.

Claim 24:

Darnell, in view of Ferrel, fails to disclose performing a topological sort on at least part of the at least one graph for finding strongly connected components.

Cormen teaches a method of performing a topological sort of an acyclic graph, comprising the step of:

- performing a topological sort on at least part of the at least one graph for finding strongly connected components (Pages 488-493),

for the purpose of converting a directed graph into an acyclic component graph (see Figure 23.9 on Page 489) so as to indicate precedence among the objects that comprise nodes of the graph (Page 485, fifth and sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Darnell, in view of Ferrel, to include the step of performing a topological sort on at least part of the at least one graph for finding strongly connected components for the purpose of indicating precedence among the objects that comprise nodes of the graph, as taught in Cormen.

Claims 25:

Darnell, in view of Ferrel, discloses a method for publishing a plurality of objects, further comprising the step of:

- publishing a set of objects of the at least one graph together (as explained in the rejection for Claim 16, the objects are partitioned into groups and then published together).

Darnell, in view of Ferrel, fails to expressly disclose a method for publishing a plurality of objects, comprising the step of:

- publishing a set of objects ***belonging to a same strongly connected component*** together.

Cormen teaches a method of performing a topological sort of an acyclic graph, comprising the step of:

- examining objects in an order defined by topological sorting (see Page 485, fifth and sixth full paragraphs); and

- finding at least one strongly connected component in the at least one graph (see Pages 488-493),

for the purpose of converting a directed graph into an acyclic component graph (see

Figure 23.9 on Page 489) so as to indicate precedence among the objects that

comprise nodes of the graph (see Page 485, fifth and sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method for publishing objects, disclosed

in Darnell, in view of Ferrel, to include the step of:

- publishing a set of objects belonging to a same strongly connected component of

    the at least one graph together,

for the purpose of converting a directed graph into an acyclic component graph so as to

indicate precedence among the objects that comprise nodes of the graph, as taught by

Cormen.

Claim 26:

Darnell, in view of Ferrel, discloses a method for publishing a plurality of objects,

comprising the steps of:

- examining objects in an order (in Darnell, the objects are "examined in an order"

    in that they are partitioned into groups, as discussed in the above rejection for

    Claim 16); and

- when an unpublished object is examined, publishing the unpublished object

    together with all objects (in Darnell, all the web pages can be updated at the

    same time; thus, "when an unpublished object is examined," it is published

    together with all objects).

Darnell, in view of Ferrel, fails to expressly disclose a method for publishing a

plurality of objects, comprising the step of:

- examining objects in an order **defined by the topological sort**, and

- when an unpublished object is examined, publishing the unpublished object

   together with all objects **belonging to a same strongly connected component**.

Cormen teaches a method of performing a topological sort of an acyclic graph,

comprising the step of:

- examining objects in an order defined by topological sorting (see Page 485, fifth

   and sixth full paragraphs); and

- finding at least one strongly connected component in the at least one graph (see

   Pages 488-493),

for the purpose of converting a directed graph into an acyclic component graph (see

Figure 23.9 on Page 489) so as to indicate precedence among the objects that

comprise nodes of the graph (see Page 485, fifth and sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method for publishing objects, disclosed

in Darnell, in view of Ferrel, to include the steps of:

- examining objects in an order defined by the topological sort; and

- when an unpublished object is examined, publishing the unpublished object

   together with all objects belonging to a same strongly connected component,

for the purpose of converting a directed graph into an acyclic component graph so as to indicate precedence among the objects that comprise nodes of the graph, as taught by Cormen.

Claims 49-52:

Claims 49-52 are merely computer software that performs the methods of Claims 23-26, respectively. Accordingly, Claims 49-52 are rejected using the same rationale indicated in the above rejections for Claims 23-26.

Claim 53:

Darnell discloses a method for publishing a plurality of objects (see Chapter 8 – "Reusable Parts for Web Pages"), comprising the steps of:

- providing a plurality of objects (as indicated in the above rejection for Claim 1, Darnell discloses this limitation); and

- publishing a set of objects (see Pages 117-123 – Darnell discloses this limitation in that Dreamweaver allows users to publish a website comprising web pages, as clearly indicated in the cited text).

Darnell fails to expressly disclose:

- constructing at least one graph, the at least one graph including nodes representing objects in the plurality of objects and edges for connecting nodes having relationships, at least some of the edges being derived from at least one consistency restraint.

Ferrel teaches:

- constructing at lèast one graph (see Column 9, Lines 30-31 – Ferrel discloses this limitation in that the reference states that an acyclic graph is a way of "storing related and ordered objects in a data structure"), the at least one graph including nodes representing objects in the plurality of objects and edges for connecting nodes having relationships (Ferrel expressly discloses an acyclic graph, which *inherently* includes "nodes" representing objects and "edges" for connecting "nodes having relationships" in that this wording simply is a **definition** of "acyclic graph"), at least some of the edges being derived from at least one consistency restraint (**the examiner's interpretation of "consistency constraint"** → any relationship or order that is imposed upon objects of web pages that will affect the publication of said web pages; see Column 9, Lines 30-31 – Ferrel discloses this limitation in that the reference states that the objects in the acyclic graph are "related" and "ordered;" moreover, "edges" of an "acyclic graph" *inherently* are derived from a "consistency constraint" in that, when a graph is topologically sorted, the "topological sort" follows the edges and imposes "consistency constraints"),

for the purposes of organizing the relationships between the objects and graphically displaying those relationships.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Darnell, to include the step of:

- constructing at least one graph, the at least one graph including nodes

  representing objects in the plurality of objects and edges for connecting nodes

  having relationships, at least some of the edges being derived from at least one

  consistency restraint,

for the purposes of organizing the relationships between the objects and graphically

displaying those relationships, as taught in Ferrel.

Darnell, in view of Ferrel, fails to expressly disclose:

- finding at least one strongly connected component in the at least one graph; and

- publishing a set of objects **belonging to a same strongly connected**

  component group.

Cormen teaches a method of performing a topological sort of an acyclic graph,

comprising the step of:

- finding at least one strongly connected component in the at least one graph (see

  Pages 488-493).

for the purpose of converting a directed graph into an acyclic component graph (see

Figure 23.9 on Page 489) so as to indicate precedence among the objects that

comprise nodes of the graph (see Page 485, fifth and sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method for publishing objects, disclosed

in Darnell, in view of Ferrel, to include the steps of:

- finding at least one strongly connected component in the at least one graph; and

- publishing a set of objects belonging to a same strongly connected component

  group,

for the purpose of converting a directed graph into an acyclic component graph so as to

indicate precedence among the objects that comprise nodes of the graph, as taught by

Cormen.

Claim 55:

Darnell, in view of Ferrel, fails to expressly disclose a method for publishing a

plurality of objects, comprising the step of:

- topologically sorting at least part of the at least one graph.

  Cormen teaches a method of performing a topological sort of an acyclic graph,

comprising the step of:

- topologically sorting at least part of the at least one graph (see Page 485, fifth

  and sixth full paragraphs),

for the purpose of indicating precedence among the objects (see Page 485, fifth and

sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method for publishing a plurality of

objects, disclosed in Darnell, in view of Ferrel, to include the step of topologically sorting

at least part of the at least one graph for the purpose of indicating precedence among

the objects, as taught by Cormen.

Claim 56:

Darnell, in view of Ferrel, discloses a method for publishing a plurality of objects, comprising the steps of:

- examining objects in an order (in Darnell, the objects are "examined in an order" in that they are partitioned into groups, as discussed in the above rejection for Claim 16); and

- when an unpublished object is examined, publishing the unpublished object together with all objects (in Darnell, all the web pages can be updated at the same time; thus, "when an unpublished object is examined," it is published together with all objects).

Darnell, in view of Ferrel, fails to expressly disclose a method for publishing a plurality of objects, comprising the step of:

- examining objects in an order ***defined by topological sorting***; and

- when an unpublished object is examined, publishing the unpublished object together with all objects ***belonging to a same strongly connected component.***

Cormen teaches a method of performing a topological sort of an acyclic graph, comprising the step of:

- examining objects in an order defined by topological sorting (see Page 485, fifth and sixth full paragraphs); and

- finding at least one strongly connected component in the at least one graph (see Pages 488-493),

for the purpose of converting a directed graph into an acyclic component graph (see

Figure 23.9 on Page 489) so as to indicate precedence among the objects that

comprise nodes of the graph (see Page 485, fifth and sixth full paragraphs).

Accordingly, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the method for publishing objects, disclosed

in Darnell, in view of Ferrel,, to include the steps of:

- examining objects in an order defined by topological sorting; and

- when an unpublished object is examined, publishing the unpublished object

  together with all objects belonging to a same strongly connected component,

for the purpose of converting a directed graph into an acyclic component graph so as to

indicate precedence among the objects that comprise nodes of the graph, as taught by

Cormen.

Claims 57 and 58:

Darnell discloses a "consistency constraint" that includes "delaying publication of

a first object until a second object is published" in that the two "objects" (i.e., web pages)

are published together. Darnell also discloses first and second objects that are web

pages.

Darnell fails to expressly disclose delaying publication of a first object until a

second object *which is referenced by the first object, via a hyperlink,* is published.

However, it was well-known by one of ordinary skill in the art at the time the invention

was made to publish web pages in a certain order so that the first web page would not

include a hyperlink to the second web page before the content on the second web page was updated. Webmasters did this so that all web pages for a website correspond and include the latest version of all components that comprise the web pages.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Darnell, in view of Ferrel, and further in view of Cormen, to include a consistency constraint that includes delaying publication of a first object until a second object which is referenced by the first object, via a hyperlink, is published so that the first web page would not include a hyperlink to the second web page before its content was updated.

Claim 59:

Darnell, in view of Ferrel, fails to expressly disclose an edge from a first object to a second object in at lest one of the at least one graphs if the second object has a reference to the first object. However, this limitation is merely reciting an *inherent* characteristic of an acyclic directed graph.

As indicated in the above rejection for Claim 20, Ferrel teaches an acyclic graph that represents relationships between objects by edges between nodes. Any directed acyclic graph that includes a directed edge from a first node to a second node, if the second object includes a reference to the first object, will *inherently* have a directed edge between the two nodes.

Claim 60:

Darnell discloses a consistency constraint that includes publishing two compound

objects together if the two compound objects are both constructed from at least one

common changed fragment (see the above rejection for Claim 16).

Claims 75-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Darnell, et al., **Using Macromedia Dreamweaver 1.2** (Que Publishing – June, 1998), in

view of Ferrel et al., U.S. Patent No. 6,199,082, and further in view of Cormen et al.,

"Introduction to Algorithms" ©1990, pp. 477-493.

Claims 75-81:

Claims 75-81 are merely computer software that performs the methods of Claims

53 and 55-60, respectively. Accordingly, Claims 75-81 are rejected using the same

rationale indicated in the above rejections for Claims 53 and 55-60.   ,

Response to Arguments

Applicant's arguments filed 23 August 2004 have been fully considered but they

are not persuasive.

Applicant's Arguments for Claims 16 and 42:

Applicant argues that Darnell fails to disclose "partitioning at least some of the plurality of objects into a plurality of groups such that if two compound objects are constructed from at least one common changed fragment, then the compound objects are placed in a same group" (see Claim 16, Lines 3-5) because the "update process" disclosed in Darnell is "nothing more than an update process which is performed by searching through pages of a selected web site for library items, and updating any items that are found with current contents from the library." Applicant further argues that the examiner's basis for the rejections of Claims 16 and 42 are "a general citation to the entire Darnell reference (pages 117-123) and bald, unsupported assertions as to the teachings of Darnell" and that "there is no citation whatsoever in the Office Action to specific portions of Darnell to support the assertions on page 13 of the Office Action." See *Applicant's Response* – Page 10, third paragraph through Page 11, first paragraph.

The examiner disagrees.

Darnell is essentially a user's guide for Dreamweaver 1.2. The cited portion of Darnell is Pages 117-123. In this portion of the user's guide, Darnell discloses "web page parts" in a "library" (see Pages 118-119). These "library items" are used in construction of web pages for a website and may be edited (see Page 120). These edited "library items" are the equivalent of the "changed fragments" recited in Claim 16. Dreamweaver allows the user to edit multiple "library items" and update all web pages at once (see Page 120). In this "atomic" update of the web pages, Dreamweaver searches through all of the web pages for the website and updates all of those pages

containing the edited "library items" (see Pages 120 and 122). In order to do this,

Dreamweaver must *inherently* "place compound objects having a common changed

fragment into a same group" in that, for each edited "library item," Dreamweaver will

determine which web pages of the website contain said edited "library item." In doing

this, Dreamweaver "[partitions] at least some of the plurality of objects into a plurality of

groups such that if two compound objects are constructed from at least one common

changed fragment, then the compound objects are placed in a same group." This is the

way Dreamweaver 1.2 works when it updates the "library items" of the web pages. The

examiner confirmed this in a discussion of this case with a fellow examiner who has

worked extensively with Dreamweaver 1.2.

Thus, Darnell discloses "partitioning at least some of the plurality of objects into a

plurality of groups such that if two compound objects are constructed from at least one

common changed fragment, then the compound objects are placed in a same group."

Applicant's Arguments for Claim 53:

Applicant argues that Ferrel fails to teach "edges being derived from at least one

consistency constraint" (see Claim 53, Line 6) because, "[a]lthough an acyclic graph

may have ordered (directed) edges, this is not the same as edges derived from

consistency constraints, as claimed." See *Applicant's Response* – Page 12, second

and third full paragraphs.

The examiner disagrees.

Firstly, Applicant states that the edges in acyclic graphs are different from edges "derived from consistency constraints." However, Applicant fails to explain how or why these edges are different and fails to support his assertion with analysis or evidence.

Secondly, the phrase "consistency constraints" reads broadly. In the Specification of the present invention, three "consistency constraints" used for publishing web pages include the following:

1) A newly updated Web page should not contain hypertext links to older pages which have not been updated yet.

2) A newly updated Web page should not contain hypertext links to pages which have not been created yet.

3) In many cases, a Web site should not have some of the pages reflecting current information while other pages reflect older information. Instead, it is desirable to publish all updated pages containing current information in one atomic action.

See Specification – Page 1, Lines 17 through Page 2, Line 7. The examiner cannot find any further definition of the phrase "consistency constraint" in the Specification.

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). In the above definitions, "consistency constraint" is most broadly defined in the third definition. That definition explicitly states that any publication of updated web pages should occur in one atomic action. This implies that any relationship or order that applies to the objects making up the web pages will be used during publication of the web pages. Thus, in view of the

Specification, the broadest reasonable interpretation of the phrase "consistency

constraint" is any relationship or order that is imposed upon objects of web pages that

will affect the publication of said web pages.

Ferrel discloses a multimedia publishing system that publishes web pages

comprising various objects. Ferrel expressly states, "The natural way of storing related

and ordered objects is in a data structure, such as an acyclic graph" (see Column 9,

Lines 30-31). Thus, Ferrel discloses that objects of web pages may be placed into an

acyclic graph, where the relationships and order of said objects are maintained. These

relationships and order of the web page objects impose a "consistency constraint" on

any update of the web pages comprising the objects in that the acyclic graph will be

consulted to determine how ("relationships") to update the objects and when ("order") to

update the objects.

Moreover, "edges" of an "acyclic graph" *inherently* are derived from a

"consistency constraint" in that, when a graph is topologically sorted, the "topological

sort" follows the edges and automatically imposes "consistency constraints." This is

how a "topological sort" is done. For example, a topological sort of an acyclic graph

results in an ordering of its nodes along a horizontal line so that all directed edges go in

one direction. The disputed claim language, as it currently reads, simply describes in

more detail the acyclic graph expressly disclosed in Ferrel.

Accordingly, Ferrel discloses "constructing at least one graph, the at least one

graph including nodes representing objects in the plurality of objects and edges for

connecting nodes having relationships."

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Doug Hutton whose telephone number is (571) 272-
4137. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00
PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Heather Herndon, can be reached at (571) 272-4136. The fax phone
number for the organization where this application or proceeding is assigned is (703)
872-9306.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (571) 272-
2100.

WDH
January 19, 2005

HEATHER R. HERNDON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100